DOCUMENT RESUME

ED 338 394 PS 019 978

AUTHOR Peet, Susan H.; Melson, Gail F.
TITLE Parental Beliefs about Development, Parental Attributions and Child Development.
PUB DATE 19 Apr 91
NOTE 22p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Seattle, WA, April 18-20, 1991).
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Attribution Theory; *Beliefs; *Child Development; Cognitive Development; Daughters; Father Attitudes; Mother Attitudes; *Parent Attitudes; *Parent Child Relationship; Parent Influence; Parent Role; Preschool Education; Sex Differences; Sons

ABSTRACT

This study examined the relationship between parents' general beliefs about child development and parents' beliefs regarding their child's performing a hypothetical developmental task with ease or with difficulty. The relation of these beliefs to the children's development was also considered. These relationships were examined separately for mothers and fathers. Sixty families, each with a 3-year-old child, participated in the study. The Beliefs About Development Questionnaire was used to assess parents' general beliefs regarding the nature of children and how they change over time. Parents were asked to prioritize explanations to 30 questions about various aspects of child development in a forced choice format. The Parental Attribution Style Questionnaire was used to determine parents' attributions. Children's receptive vocabulary was measured by the revised Peabody Picture Vocabulary Test and the Preschool Inventory was used to measure children's overall development. When patterns of association regarding parents' generalized beliefs about development and child development were examined without differentiation of the sex of the child, no significant patterns of association emerged. However, when detailed analyses were conducted separately for mothers and fathers with sons, and mothers and fathers with daughters, significant relationships emerged. Findings concerning specific beliefs about development suggest that there tends to be a belief about the cause of the child not performing the task which makes the child, not the parent, responsible for the failure. Findings indicated that in group analyses, mothers and fathers did not differ significantly in generalized beliefs about development. But when patterns of association were analyzed, many associations differed depending on the sex of the parent. (SH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED338394

Parental Beliefs About Development, Parental Attributions and Child Development

Susan H. Peet

Purdue University

Gail F. Melson

Purdue University

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Susan Peet
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Paper presented at the biennial meeting of the Society for Research in Child Development, Seattle, WA, April 19, 1991.

PS 019978

2 BEST COPY AVAILABLE

Parental Beliefs About Development, Parental Attributions and Child Development

The relationship between what parents believe about child development and the child's actual development has recently been described as a complex, systemic relationship (Stratton, 1988). Stratton presents a model which highlights the dynamic and reciprocal interplay between culture, parental generalized and specific beliefs, and a child's development. According to this model parents have both a general conceptualization of what children are like, and a specific set of beliefs about each of their own children. When a parent thinks about a specific child, the parental beliefs will determine in part how the child is treated. Based on this treatment, the child will develop models of what kind of person he or she is, models of how the child believes he or she is perceived by the parents, and models of the parents. These models will provide the basis for the child to act in particular ways, which will provide feedback affecting the parents' perceptions of the child (Stratton, 1988).

According to Miller (1988) investigations into parental beliefs about development have typically focussed upon either parental generalized beliefs or parental specific beliefs about child development. Parents' generalized beliefs about children have been characterized as parents' theoretical explanations of how children get to be the way they are. The degree to which a parent believes that children's abilities are inborn or learned, and the extent to which a parent believes that parents influence children's development are examples of generalized parental beliefs. For example, "children learn to read when parents work with the child." In contrast, parental perceptions of the influences upon

his or her own child's development characterizes specific parental beliefs about development. For example, "my child has learned to read because I work with him/her."

Parental explanations for the causes of children's development have been shown to differ depending upon whether the child succeeds or fails at a particular task. For example, successful outcomes are often attributed to causes within the child, while unsuccessful outcomes are frequently attributed to causes outside of the child (Gretarrson & Gelfand, 1988).

This study focused upon the relationships among parents' characteristic theoretical beliefs (general beliefs) about child development, parents' attributions (specific beliefs) regarding their child successfully or unsuccessfully attaining a developmental task, and how these beliefs and attributions are related to children's development. Since relatively little is known about differences between mothers and fathers in such beliefs and attributions, this study also examined the relationships between beliefs, attributions and child development separately for mothers and fathers.

Generalized Parental Beliefs

Studies which have focused upon generalized parental beliefs have shown that education level and age of the mother are important influences upon mothers' generalized beliefs about development, and that education level and number of children are related to fathers' generalized beliefs about development (McGillicuddy-DeLisi, 1982). Socioeconomic status also has been related to both mothers' and fathers' generalized beliefs (McGillicuddy-DeLisi, 1982; Russell & Russell, 1982; Sameroff & Feil, 1985). Evidence is mixed concerning mother-father differences in generalized

beliefs about development. Russell and Russell (1982) found that mothers believe that they have more influence over a child's development than fathers, but Miller, White and Delgado (1980) found relatively few mother-father differences on generalized beliefs about development.

Investigating the relationship between a parent's generalized beliefs about development and a child's development, McGillicuddy-DeLisi (1985) found that mothers' and fathers' constructivist beliefs were positively related to a child's overall cognitive level (mothers, $r = .20$, $p < .05$; fathers' $r = .25$, $p < .05$). In addition, Johnson and Martin (1983 cited in Miller, 1988) found a significant positive correlation between cognitive-developmental views of parents and child performance on reading and arithmetic measures, and a significant negative correlation between maturational views of parents and child performance on the same measures.

Based on these findings, cognitive developmental beliefs about development, as reported by mothers and fathers, were expected to be positively correlated with a child's performance on the Peabody Picture Vocabulary Test - Revised (PPVT-R) and the Preschool Inventory (PSI), while maturational beliefs about development, as reported by mothers and fathers, were expected to be negatively correlated with the same measures. Learning beliefs about development, as reported by mothers and fathers, were expected to be unrelated to a child's performance on the PPVT-R and PSI.

Specific Parental Beliefs

Parental beliefs about the development of one's own child have been investigated in various parental attribution studies. According to Hubert (1989) parental

attributions about themselves can be distinguished from parental attributions about their children. Studies focusing upon parental attributions typically examine parental cognitions of the causes of a child's development rather than the causes of their own behavior. For example, a parent may think that he/she does not have any influence over the causes of his or her child's development/behaviors while the same parent believes that he/she has total control over his/her development/behaviors.

According to Weiner's Attributional Theory of Motivation and Emotion (1986) the causal dimensions of locus, stability and controllability lead to psychological consequences for an individual which in turn produce various behavioral consequences. These dimensions are conceived as a bipolar continuum labeled at the extremes as internal-external, stable-unstable, and controllable-uncontrollable.

According to Weiner (1986) the perceived locus of causality influences self-esteem or self-worth. Specifically, successful outcomes that are ascribed to the self are expected to result in greater self-esteem or pride than successful outcomes that are externally attributed. Failure ascribed to the self is believed to result in lower self-esteem than failure that is externally attributed.

According to the theory the stability dimension is linked to the expectancy of success or failure. If the presence or absence of a cause is expected to remain the same, then the outcome experienced on past occasions will be expected to recur. Thus, a success under these conditions would be likely to result in the expectation of future success, and a failure would strengthen the belief that there will be additional failures in the future. If the presence or absence of a cause is expected to vary, the expectancy of

future success or failure should not rise and may drop following a positive outcome or rise after a negative outcome (Weiner, 1986).

A number of attribution studies have investigated parents' characteristic responses to their child performing or not performing a specific task (Gretarsson & Gelfand, 1988; Hubert, 1989; Melson, McVey & Ladd, 1989; Dunton, McDevitt & Hess, 1988). However, no studies are currently available which link characteristic parental attribution responses on the dimensions of locus of cause, stability of cause, and controllability of cause with separate measures of child development. Due to a lack of theoretical and empirical evidence to guide predictions regarding the relationship between parental attributions and child performance on the PPVT-R and PSI, these relationships were examined in an exploratory manner.

This study was designed to replicate the findings of McGillicuddy-DeLisi (1985) and Johnson and Martin (1983) in order to determine relationships between parental generalized beliefs and child development, and to examine various specific parental attributions about their own child as they relate to child development.

The specific research questions were:

----- What is the relationship between generalized parental beliefs (maturational, cognitive-developmental, and learning) and measures of children's overall and cognitive development?

----- What is the relationship between specific parental beliefs (attribution dimensions of parent and child locus of cause, stability of cause, and controllability of cause about their child's success and failure) and measures of children's overall and

cognitive development?

----- Do mothers differ from fathers in attributions and beliefs about development? Do the patterns of association show similar findings for mothers and fathers?

----- Is sex of the child related to the relationships between parental generalized beliefs/parental specific attributions and the child's development on measures of overall and cognitive development?

Methods

Sixty family units participated in this study (60 mothers, 60 fathers and 60 children - 30 boys and 30 girls). Each child was the first-born child of the family, and three-years-old at time of consent to participate in the study. At the time of participation in the study, both parents and child lived in the same household. All parents were either the biological or adoptive parents of the three-year-old child. The measures were typically administered to parents and children in individual, at-home interviews by trained interviewers.

The Beliefs About Development Questionnaire (Johnson & Martin, 1983) was used to assess parents' general beliefs regarding the nature of children and how they change over time. Parents were asked to prioritize explanations to 30 questions about various aspects of child development in a forced choice format. The three choices represent applications of maturational, cognitive- developmental and learning theoretical explanations of development. Maturational, cognitive-developmental and learning scale

scores were derived for each parent. Scores on each scale ranged from 0 to 30 with a higher score reflecting a greater endorsement of that belief.

The Parental Attribution Style Questionnaire (PASQ) - an adapted version of the Attribution Style Questionnaire (Seligman, Abramson, Semmel & von Baeyer, 1979) - was used to determine parents' attributions on four separate dimensions (i.e., parent locus of cause, child locus of cause, controllability of cause, stability of cause). The PASQ is composed of 12 hypothetical situations concerning the child's development within the domains of physical/motor development, social/emotional development, and cognitive/language development. Six of the hypothetical situations describe a child performing a developmental task with ease, and six of the situations describe a child performing a developmental task with difficulty. For each situation the parent was asked to imagine that his/her child was the child in the hypothetical situation. For example, parents were asked to "Suppose your three-year-old child easily plays alongside another child; or Suppose your three-year-old child has difficulty being around familiar adults".

For each of the 12 hypothetical situations, parents were asked to determine the cause of the child being able to perform the task with ease or with difficulty on the attribution dimensions of parent locus of cause, child locus of cause, stability of the cause and controllability of the cause. Parents were asked to indicate each of their beliefs on a Likert-type scale ranging from 1 to 8 on each of the four dimensions.

Eight scores were generated from the PASQ; four for the scenarios describing a child successfully performing an developmental task and four for scenarios describing a

child having difficulty performing a developmental task. The range of views on the four attribution dimensions were: The parental locus of cause dimension ranged from cause within the parent (1) to cause outside the parent (8); the child locus of cause dimension ranged from cause within the child (1) to cause outside the child (8); the stability dimension ranged from the cause changes (1) to stays the same (8); and the controllability dimension ranged from the cause is not at all controllable (1) to the cause is totally controllable (8). The attribution dimension scores were generated by summing across each of the four individual dimensions for the 6 situations presenting developmental tasks the child performs easily and for the 6 situations presenting tasks the child performed with difficulty. Parental scores for each of the 8 scales ranged from 6 to 48.

The Peabody Picture Vocabulary Test - Revised (Dunn & Dunn, 1981) was used to measure children's receptive vocabulary. Scoring was conducted following the PPVT-R manual instructions. Standard scores were utilized in all analyses.

The Preschool Inventory (Caldwell, 1970) was used to measure children's overall development. Possible scores ranged from 0 to 64. Children's raw scores were utilized in all analyses.

Results

Preliminary one-way analyses of variance were conducted to determine if parental beliefs, parental attributions or child development varied as a function of the demographic variables (viz., sex of child, form of child care, parental level of education, parental employment, number of children in family). The sex of the child, the form of

child care, level of maternal education, and the father's employment status were found to affect parental beliefs, attributions and/or child development in a variety of ways. A full interpretation of the specific patterns of relationships identified in the preliminary analyses is beyond the scope of this paper; however, in all primary analyses variance due to these demographic variables was partialled out when appropriate.

The first research question, the relationship between parental generalized beliefs about development and the child's development, was investigated utilizing partial correlation analyses. Cognitive-developmental beliefs about development were expected to be positively related to children's performance on the PSI and PPVT-R. For fathers, no significant relationship was identified between cognitive-developmental beliefs and child development when the analyses were performed on all fathers (n=60) and children (n=60). However, when analyses were run separately by sex of child, fathers' cognitive-developmental beliefs were correlated with sons' performance on the PPVT-R ($r(28) = .35$, $p < .03$) when level of education was statistically controlled. No significant relationships were identified on these variables between fathers and daughters, and mothers and sons or daughters.

Maturational beliefs about development were expected to be negatively correlated with a child's performance on the PSI and PPVT-R. After controlling for level of education, mothers' maturational beliefs were positively related to sons' performance on the PPVT-R (r (28) = .40, $p < .03$), but not to daughters' performance on the PPVT-R. Fathers' maturational beliefs were positively correlated with daughters' performance on the PPVT-R (r (28) = .34, $p < .04$), but not to sons' performance. Therefore, contrary

to the expected direction of relationships, maternal maturational beliefs were positively associated with sons' performance on the PPVT-R, and paternal maturational beliefs were positively associated with daughters' performance on the PPVT-R.

As expected, parental reports of learning beliefs were unrelated to children's scores on the PPVT-R or the PSI. No significant relationships were identified between any of the three scales of parental beliefs about development and PSI scores.

The second research question investigated associations between four parental attribution scales and child development. Partial correlation analyses were utilized to assess these relationships.

Daughters' performance on the PPVT-R was positively related to their mothers' external parental locus of cause for unsuccessful developmental tasks (r (26) = .38, $p < .02$). Similarly, for fathers, sons' and daughters' performance on the PPVT-R scores were positively related to fathers' external parental locus of cause for unsuccessful developmental tasks (r (54) = .24, $p < .03$). Thus, with the exception of mothers and sons, the more optimally the child performed on the PPVT-R, the more the parent reported believing that the causes of the child's unsuccessful developmental tasks were due to factors external to the parent.

The child locus of cause for unsuccessful developmental tasks was negatively related to the child's performance on the PPVT-R (r (54) = -.47, $p < .01$) for fathers only. Thus, the more internal the father's rating of the child locus of cause, the higher the child scored on the PPVT-R.

For mothers, the stability of cause of successful developmental tasks was positively related to daughters' performance on the PPVT-R (r (26) = .38, $p < .02$). In contrast, for fathers the stability of the cause of the successful developmental tasks was negatively related to children's PPVT-R score (r (54) = -.22, $p < .05$). However, when this analysis was conducted separately for fathers with sons and fathers with daughters, the significant relationship was identified for fathers with sons only (r (25) = -.47, $p < .01$).

The controllability of the cause of successful and unsuccessful developmental tasks was not related to child PPVT-R or PSI performance for mothers. However, for fathers the controllability of the successful developmental tasks was negatively related to sons' performance on the PPVT-R (r (27) = -.38, $p < .01$).

The third research question investigates similarities and differences in mothers' and fathers' beliefs and attributions about children's development. T-test comparisons were utilized to determine if mothers and fathers differed significantly on any of the parental belief or parental attribution measures. Significant differences were obtained on the child locus of cause of successful developmental tasks (t (59) = -2.0, $p < .04$), and on the stability of causes of unsuccessful developmental tasks (t (59) = -2.8, $p < .01$). The means on these analyses indicated that fathers (M = 19.2, S. D. = 5.8), more than mothers (M = 17.1, S. D. 5.2), tended to attribute causes of successful developmental tasks to factors more external to the child. Also, fathers (M = 16.1, S. D. = 7.0), more than mothers (M = 13.0, S. D. = 6.1), indicated they believed the causes of unsuccessful developmental tasks were more stable. No other significant

differences were found on other attribution scales or the belief about development scale scores.

Discussion

Parental generalized beliefs about development were related to one measure of child development, although occasionally neither in the expected direction, nor consistently for mothers and fathers with sons and daughters. The findings revealed that when the patterns of association were examined regarding parental generalized beliefs about development and child development without differentiating the sex of the child, no significant patterns of association emerged. However, when more detailed analyses were conducted separately for mothers/fathers with sons and mothers/fathers with daughters, a number of significant relationships emerged. Thus, it may be concluded that the sex of the child is an important consideration when examining relationships between parent generalized beliefs and measures of child development.

Consistent with the findings of McGillicuddy-DeLisi (1985) and Johnson and Martin (1983), fathers' cognitive-developmental beliefs were positively correlated with child performance on the PPVT-R; however, in this study the pattern was significant for fathers and sons only. Contrary to the findings of Johnson and Martin (1983), fathers' greater maturational beliefs were positively related to daughters' performance on the PPVT-R, and mothers' greater maturational beliefs were positively related to sons' performance on the PPVT-R. Thus, both maturational and cognitive-developmental beliefs were associated with higher performance on the PPVT-R, although the patterns differed for mothers and fathers, depending on whether they were the parent of a son or

a daughter.

Using Stratton's (1988) model as a basis for interpreting these results, it may be that fathers who hold greater cognitive-developmentalist beliefs also tend to hold certain specific beliefs about their sons' development which influence the fathers' treatment of their sons. Assuming that this treatment interacts in a positive way with the child's characteristics, the child gains the cognitive skills necessary to perform well on the PPVT-R which in turn affect the fathers' specific and general beliefs about the child's development. Similarly, fathers of daughters and mothers of sons who hold greater maturational beliefs may treat daughters/sons in ways that facilitate optimal development in the daughters/sons, which further influence the parents' beliefs.

Unfortunately, due to its correlational design, the findings of this study cannot address when to enter the circular relationships described in Stratton's model. Therefore, an equally viable explanation for these relationships is that a child who performs well on cognitive tasks influences his/her parent's beliefs about development, which in turn impacts the way the parents treat the child. Additionally, a third, unmeasured variable may influence the parent's belief and/or development.

What is clear from the findings of this study is that the sex of the parent and sex of the child are important considerations for the literature on the relationship between parental cognitions and child development. According to Block (1983) perhaps the most consistent finding regarding sex differences in children is that from an early age boys are perceived by parents as more active, curious and exploratory, and more adventuresome than are girls. Thus, mothers may tend to view their sons' cognitive

development as largely due to what the mothers perceive as innate characteristics of the sons. When a son is performing especially well, a mother may attribute the child's optimal development to characteristics associated within the child, thus explaining the positive correlation between the sons' optimal performance on the PPVT-R and mothers' maturational beliefs. If, on the other hand, mothers perceive daughters as naturally less active, curious, and exploratory, mothers may believe that when daughters perform optimally on a task, it has less to do with child characteristics and more to do with environmental characteristics, thus accounting for the lack of significant relationships among maturational beliefs and child development for mothers and daughters.

Additionally, perhaps because fathers tend to be very concerned about achievement for their sons (Block, 1983), and because fathers may not be available to observe what the mothers consider to be the sons' innate characteristics, fathers' cognitive-developmental beliefs were associated with optimal development of sons. Fathers may tend to believe that their sons perform well because the child has been provided with the appropriate opportunity at an appropriate time in the child's development. Thus, fathers may not be as likely to give most of the credit for success to the sons' innate characteristics; they may believe that the sons' success is due to the combination of innate and environmental factors.

In contrast, fathers' maturational beliefs appear to be related to daughters' optimal performance. Perhaps, because fathers place less emphasis upon achievement with daughters (Block, 1983), when daughters perform optimally, fathers may reason that the child performs well because of the child's natural ability, rather than because

the parent has encouraged her to perform well. Thus, for fathers, when the son performs optimally, it may be explained as an interaction between his ability and the environment, but when daughters perform optimally, it is because of her ability.

Considering specific beliefs about development, a pattern emerged for both mothers and fathers on children's unsuccessful development of a developmental task for the locus of parent and locus of child attribution dimensions. With the exception of mothers and sons, children who performed optimally on the PPVT-R tended to have parents who reported believing that the cause of their child's failure was due to factors outside of the parent. In contrast, fathers - but not mothers - who believed that the cause of their child not successfully performing a developmental task reported believing that the cause was due to factors within the child.

These findings suggest that especially for fathers of children who perform well on the PPVT-R, there tends to be a belief about the cause of the child not performing the task which makes the child, not the parent, responsible for the failure. These findings may indicate that for children who are developing optimally, a pattern contrary to the positivity bias may be in effect for fathers. That is, rather than attributing the cause of the child's failure to factors external to the child, fathers attribute the cause of the child's failure to factors within the child. Mothers on the other hand, like fathers do not feel personally responsible for the child's failure, but in contrast to fathers, they do not appear to believe that the child is responsible for the failure.

A complex parent-child pattern emerged on the stability attribution dimension which depicted children performing a developmental task successfully. For mothers of

daughters, the more stable the mother perceived the cause of the child performing the task successfully, the more likely the child performed well on the PPVT-R. The opposite pattern was identified for fathers and sons, that is, the more stable the father perceived the cause of the child performing the task successfully, the less optimally the son performed on the PPVT-R.

One explanation for these findings, utilizing Stratton's model, is that mothers who believe that the cause of their daughter's success is stable, may, according to Weiner (1986), have feelings of hopefulness that the child will have future success on various tasks. If this expectation of future success is translated into particular treatment of their daughters, then this treatment, in combination with the child's characteristics, may result in the child performing more optimally on various cognitive tasks.

Fathers who believe that a son's success is stable, also may foster a sense of hopefulness. However, for fathers and sons it may be that this hopefulness leads to feelings of over-confidence which in turn may affect the way fathers treat their sons. It is possible that fathers who are overly-confident of their sons' abilities do not stimulate their sons appropriately, thereby accounting for the less optimal development as measured by the PPVT-R.

A similar pattern is observed for fathers on the controllability dimension for scenarios depicting a child performing a developmental task successfully. For fathers of sons, the more controllable the cause of the son performing the task successfully, the less well the son tended to perform on the PPVT-R. Perhaps a father who perceives that he has a lot of control over the child's development, may place many unrealistic

demands upon a child which in turn do not promote optimal development in the child.

Consistent with the findings of Miller, White and Delgado (1980), mothers and fathers, on group analyses, did not differ significantly in generalized beliefs about development. However, the findings of this study also are consistent with patterns reported by Russell and Russell (1982) indicating that when mothers and fathers are compared as groups, relatively few differences emerge, but when patterns of association are analyzed, many associations differ depending on the sex of the parent.

Two group mother-father differences were identified from the eight attribution scales. First, fathers reported believing more than mothers that the causes of a child's unsuccessful developmental tasks were more stable. An explanation for this finding suggests that either mothers may have additional experience or observations which indicates to them that the child's behavior may change, or mothers may be hopeful that if circumstances change (e.g., that is, the child works harder, the teacher tries more) the child's behavior will be come more successful.

Fathers more than mothers also tended to believe that the causes of a child performing a task successfully were due to factors external to the child. Thus, fathers appear to give the credit for a child's success to factors external to the child (e.g., a good teacher, firm discipline), whereas mothers appear to give the credit to factors within the child (e.g., the child worked hard, the child learned to do it by him/herself).

The findings of this study have linked various parental generalized and specific beliefs about development with two measures of child development. These findings have been discussed utilizing Stratton's model for the overall framework and utilizing

Weiner's (1986) causal attributions to interpret the specific parental cognitions which presumably influence child development. The theoretical works of Stratton and Weiner have provided a useful tool to discuss the ways that general and specific parental beliefs about child development are related to child development.

A major inconsistency in the findings of this study is the complete absence of similar patterns of association for the PPVT-R and PSI. One speculation is that since the PPVT-R measures a specific aspect of cognitive development, that is, receptive vocabulary, and since the PSI is designed to serve as an assessment of children's overall development, there was less variability in children's PSI scores which could prevent significant relationships from emerging.

Future research efforts should document the ways that parental beliefs are related to child development through an analysis of the extent of congruence between parental generalized and specific beliefs about development, and if or how this congruence is related to children's development. After documenting relationships between generalized and specific beliefs about development, Stratton's model could be tested more thoroughly. Based on the findings of this study, all future research efforts in this area should analyze findings according to the sex of parent and sex of the child.

More work also needs to be done examining the relationship between parental maturational beliefs and child development. This work should be extended to children and parents with more diverse educational backgrounds and who are at different stages of development since we know that both parents and children change with development (Galinksy, 1989).

References

Block, J. H. (1983). Differential premises arising from differential socialization of the sexes: Some conjectures. Child Development, 54, 1335-1354.

Caldwell, B. M. (1970). Preschool Inventory - Revised Edition. Educational Testing Service.

Dunn, L. M. & Dunn, L. M. (1981). Peabody Picture Vocabulary Test - Revised. American Guidance Service: Circle Pines, Minnesota.

Dunton, K. J., McDevitt, T. M., & Hess, R. D. (1988). Origins of mothers' attributions about their daughters' and sons' performance in mathematics in sixth grade. Merrill-Palmer Quarterly, 34, 621-634.

Galinsky, E. (1987). The six stages of parenthood. Addison-Wesley Publishing Co., Inc.

Gretarsson, S. J., & Gelfand, D. M. (1988). Mothers' attributions regarding their children's social behavior and personality characteristics. Developmental Psychology, 24 (2), 264-269.

Hubert, N. (1989). Parental attributions for their 6- and 24 month-old's temperamental easiness/difficultness. Paper presented at the meeting of the Society for Research in Child Development, Kansas City, 1989.

Johnson, J. E., & Martin, C. (1983, October). Family environments and kindergarten children's academic knowledge. Paper presented at the meeting of the Northeastern Educational Research Association, Ellenville, NY.

Johnson, J. E., & Martin, C. (1985). Parents' beliefs and home learning environments: Effects on cognitive development. In I. E. Sigel (Ed.) Parental belief systems. Hillsdale, NJ: Erlbaum.

McGillicuddy-DeLisi, A. V. (1982). The relationship between parents' beliefs about development and family constellation, socioeconomic status, and parents' teaching strategies. In L. M. Laosa & I. E. Sigel (Eds.), Families as learning environments for children. New York: Plenum.

McGillicuddy-DeLisi, A. V. (1985). The relationship between parental beliefs and children's cognitive level. In I. E. Sigel (Ed.) Parental belief system. Hillsdale, NJ: Erlbaum.

Melson, G. F., McVey, A., & Ladd, G. (1989). How mothers explain their role in fostering their children's learning: An attributional analysis. Paper presented at the meeting of the Society for Research in Child Development, Kansas City, April, 1989.

Miller, S. A. (1988). Parents' beliefs about children's cognitive development. Child Development, 59, (2), 259-285.

Miller, S. A., White, N., & Delgado, M. (1980). Adults' conceptions of children's cognitive abilities. Merrill-Palmer Quarterly, 26, 135-151.

Preschool Inventory Manual (1970). Educational Testing Service. McGraw-Hill, Monterey, CA.

Russell, G. & Russell, A. (1982). Mother, father and child beliefs about child development. Journal of Psychology, 110, 297-306.

Sameroff, A. J., & Feil, L. A. (1985). Parental concepts of development. In I. E. Sigel (Ed.) Parental belief systems. Hillsdale, NJ: Earlbaum.

Seligman, M. E., Abramson, L. Y., Semmel, A., & von Baeyer, C. (1979). Depressive attributional style. Journal of Abnormal Psychology, 88, 242-247.

Stratton, P. (1988). Parents' conceptualization of children as the organizer of culturally structured environments. In J. Valsiner (Ed.) Child development within culturally structured environments. Norwood, New Jersey: Ablex Publishing Corp.

Weiner, B. (1986). An attributional theory of motivation and emotion. New York: Springer-Verlag.